

Notice of Allowability

Application No.

09/473,495

Examiner

Justin R Fischer

Applicant(s)

ATSUMI ET AL.

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 21 January 2004.
2. ☒ The allowed claim(s) is/are 20-22 (renumbered 1-3).
3. ☒ The drawings filed on 28 December 1999 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

Allowable Subject Matter

1. Claims 20-22 (renumbered 1-3) are allowed. The following is an examiner's statement of reasons for allowance:

It is well known in the golf club industry to form a golf club shaft with a plurality of fiber-reinforced plies having a straight, perpendicular, or angled arrangement with respect to the longitudinal axis of the shaft. The prior art references of record failed to suggest, disclose, or teach the specific golf club shaft construction of the claimed invention, particularly the inclusion of a pair of angled layers, wherein the outermost or second angled layer had a thickness between 0.04 and 0.1 millimeters and the fibers of the outermost or second angled layer formed an angle between 70 and 150 degrees- this construction provided the unexpected benefit of high strength and flexibility while maintaining a shaft weight between 30 and 40 grams. As set forth in Tables 1 and 2 of the original disclosure and the declaration submitted on January 21, 2004, the inclusion of a second angled layer satisfying the limitations of the claimed invention resulted in a golf club shaft exhibiting increased strength without a corresponding increase in shaft weight (each shaft has the same weight). Also, as noted by applicant in the previous paper, two of the references cited by the examiner (Sugiyama and Akatsuka) further support the unexpected benefits noted above in that they, at best, produce the same torsional strength with a shaft that is at least 50% heavier than the inventive shaft- none of the prior art references of record provide a lightweight shaft construction, between 30 and 40 grams, having high strength and flexibility.

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The closest prior art of record is Jackson, which, as best depicted in Figure 17, includes a first angled layer, a first straight layer, a second angled layer, and a second straight layer. Furthermore, the inclusion of an innermost perpendicular layer and an outermost parallel layer would have been within the purview of one of ordinary skill in the art at the time of the invention in order to optimize the strength and flexibility characteristics of the golf shaft, as shown for example by Sugiyama and Kusomoto. However, as noted above, the inventive shaft construction is directed to a specific arrangement of six layers, wherein the claimed thickness and fiber inclination of the second angled layer provide a lightweight shaft construction that unexpectedly demonstrates high strength and flexibility.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

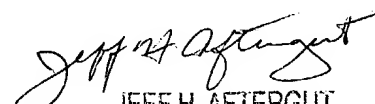
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin Fischer

April 12, 2004


JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300